

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A semiconductor optical waveguide device, comprising:
a semiconductor substrate;
a plurality of substantially S-shaped bent waveguides embedded in the semiconductor substrate;

at least two optical waveguide returning parts interposed between a light input end and a light output end of the bent waveguides, each of said optical waveguide returning parts including a multiplexing portion; and

respective light reflecting parts on a rear end side of the multiplexing portion of each of the optical waveguide returning parts, inside the semiconductor substrate, wherein the rear end side of the multiplexing portion has an optical mirror surface, and each of the light reflecting parts includes a rectangular recess in the semiconductor substrate and a reflecting film on a side surface of the rectangular recess, facing the rear end side of the multiplexing portion.

2. (Currently Amended) The semiconductor optical waveguide device according to ~~Claim~~ claim 1, wherein each of the optical waveguide returning parts comprises a Y-branch.

3. (Currently Amended) The semiconductor optical waveguide device according to ~~Claim~~ claim 1, wherein each of the optical waveguide returning parts comprises a multi mode interference coupler.

4. (Currently Amended) The semiconductor optical waveguide device according to ~~Claim~~ claim 1, wherein each of the optical waveguide returning parts comprises a directional coupler.

5. (Currently Amended) The semiconductor optical waveguide device according to ~~Claim~~ claim 1, wherein the optical waveguide returning parts and the light reflecting parts

are located at a predetermined depth within the rectangular recess in the semiconductor substrate.

6. (Currently Amended) The semiconductor optical waveguide device according to ~~Claim~~ claim 1, wherein each of the bent waveguides includes a core layer and a cladding layer, the core layer being InGaAsP, and the cladding layer being InP, wherein incident light, at a wavelength band of 1.55 μm , is applied to the optical waveguide device and the bent waveguides have a radius of curvature of at least 2400 μm .

7. (Currently Amended) The semiconductor optical waveguide device according to ~~Claim~~ claim 1, including a vapor-deposited metal film having a reflectance of at least 30% on an end surface of each of the light reflecting parts.

8. (Currently Amended) The semiconductor optical waveguide device according to ~~Claim~~ claim 7, wherein the metal film is aluminum.

Claim 9 (Cancelled).

10. (New) The semiconductor optical waveguide device according to claim 1, wherein

each of the light reflecting parts is a dry-etched portion of the semiconductor substrate, and

the rectangular recess is filled with an insulating substance forming a reflecting surface.